U.S. Department of the Interior
Bureau of Land Management
White River Field Office
73544 Hwy 64
Meeker, CO 81641

ENVIRONMENTAL ASSESSMENT

NUMBER: CO-110-2004-177-EA

CASEFILE/PROJECT NUMBER (optional)**:** COC-65565 (APDs for wells 8603C C06 497 and 8602C C06 497)

PROJECT NAME: EnCana Eureka/Double Willow Exploration – East Hunter Creek

LEGAL DESCRIPTION: T3S, R97W, SE Sec. 30, W2 Sec.31
T4S, R97W, NW Sec. 6

APPLICANT: EnCana Oil & Gas (USA) Inc.

DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES:

Proposed Action: This environmental assessment (EA) addresses the potential impacts of developing well pad C06 497 at T4S, R97W, SW NE NW Sec. 6 and drilling two wells on that pad, 8603C C06 497 and 8602C C06 497. During the on-site and survey of this location, it was referred to as the DW-P001. Included in the Proposed Action are the 3.7 acre well pad, improvement of approximately 1.9 miles of two-track from the main Hunter Creek road into East Hunter Creek where the pad is located (including about 200 feet on new access road construction at the pad and about 0.1 mile of reroute around the pad) and construction of a 1.8 mile pipeline adjacent to the improved road. (See Figures 1 and 2) The road improvement descried in the applicant's Surface Use Plan would be on a 30 foot permanent right-of way with an 18-20 foot running surface, crowned and ditched with dips installed as needed. Total disturbance for the road upgrade and pipeline construction would be about 23 acres. The well pad and about 0.8 miles of the road and pipeline are located on public land administered by BLM.

If neither well is a producer, the wells would be plugged and all disturbed areas would be contoured and reclaimed. If either well is a producer, the area not needed for production would be contoured and reclaimed. Assuming there is production, after successful reclamation of the disturbed areas, long-term disturbance is estimated at about 8 acres.

No Action Alternative: None of the proposed surface disturbing activities nor the drilling of the wells would occur.

NEED FOR THE ACTION: All of the proposed or potential actions analyzed in this EA are being pursued by EnCana in order to exercise its federal mineral lease rights.

PLAN CONFORMANCE REVIEW: The Proposed Action is subject to and has been reviewed for conformance with the following plan (43 CFR 1610.5, BLM 1617.3):

Name of Plan: White River Record of Decision and Approved Resource Management Plan (ROD/RMP).

Date Approved: July 1, 1997

Decision Number/Page: Page 2-5: "Make federal oil and gas resources available for leasing and development in a manner that provides reasonable protection for other resource values."

Decision Language: The proposed action has been reviewed for conformance with this plan (43 CFR 1610.5, BLM 1617.3). The action conforms to the decisions/pages of the plan listed above.

AFFECTED ENVIRONMENT / ENVIRONMENTAL CONSEQUENCES / MITIGATION MEASURES:

STANDARDS FOR PUBLIC LAND HEALTH: In January 1997, Colorado Bureau of Land Management (BLM) approved the Standards for Public Land Health. These standards cover upland soils, riparian systems, plant and animal communities, threatened and endangered species, and water quality. Standards describe conditions needed to sustain public land health and relate to all uses of the public lands. Because a standard exists for these five categories, a finding must be made for each of them in an environmental analysis. These findings are located in specific elements listed below.

CRITICAL ELEMENTS

AIR QUALITY

Affected Environment: The project area is within a Class II Prevention of Significant Deterioration (PSD) air quality area. No Class I PSD areas are within 40 miles of the project area.

The principal air quality parameter likely to be affected by construction of the well pad and pipeline and the upgrade of the two-track is the inhalable particulate level (PM_{10} - particles ten microns or less in diameter) associated with fugitive dust. Although no monitoring data are available for the survey area, it can be surmised that the air quality is good because the Colorado Air Pollution Control Division (APCD) estimates the maximum PM_{10} levels (24-hour average) in rural portions of western Colorado like the Piceance Basin to be less than 50 micrograms per

cubic meter. This estimate is well below the National Ambient Air Quality Standard for PM_{10} (24-hour average) of 150 $\mu g/m^3$.

Environmental Consequences of the Proposed Action: The construction of the facilities proposed – well pad, pipeline, and road - would result in short term, local impacts on air quality during and after construction, due to dust being blown into the air. However, airborne particulate matter should not exceed Colorado air quality standards on an hourly or daily basis. Following successful revegetation of the sites, airborne particulate matter should return to near pre-construction levels.

Environmental Consequences of the No Action Alternative: None

Mitigation: Implement dust abatement measures described in the APD's 13 Point Surface Use Plan.

Permitting of all regulated air pollution sources through the Colorado Department of Public Health and Environment (CDPHE), Air Pollution Control Division, will assure compliance with all federal and state standards.

CULTURAL RESOURCES

Affected Environment: The proposed well pad was inventoried at the Class III (100% pedestrian) level (Conner and Davenport 2004, Compliance Dated 6/22/2004). No cultural resources had previously been recorded in these areas and none were identified in the inventory.

The proposed road upgrade and pipeline route were inventoried at the Class III (100% pedestrian) level (Conner and Davenport 2004, Compliance Dated 10/06/2004). No cultural resources had previously been recorded in these areas and none were identified in the inventory.

Environmental Consequences of the Proposed Action: Construction of the proposed well pad and pipeline and improvement of the road to the site would not impact any known cultural resources.

Environmental Consequences of the No Action Alternative: None

Mitigation: 1. The operator is responsible for informing all persons who are associated with the project operations that they will be subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are uncovered during any project or construction activities, the operator is to immediately stop activities in the immediate area of the find that might further disturb such materials, and immediately contact the authorized officer (AO). Within five working days, the AO will inform the operator as to:

- whether the materials appear eligible for the National Register of Historic Places,
- the mitigation measures the operator will likely have to undertake before the site can be used (assuming in situ preservation is not necessary),

- a timeframe for the AO to complete an expedited review under 36 CFR 800-11 to confirm, through the State Historic Preservation Officer, that the findings of the AO are correct and that mitigation is appropriate.

If the operator wishes, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the AO will assume responsibility for whatever recordation and stabilization of the exposed materials may be required. Otherwise, the operator will be responsible for mitigation cost. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that the required mitigation has been completed, the operator will then be allowed to resume construction.

2. Pursuant to 43 CFR 10.4(g) the holder of this authorization must notify the AO, by telephone, with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, pursuant to 43 CFR 10.4 (c) and (d), the holder must stop activities in the vicinity of the discovery and protect it for 30 days or until notified to proceed by the AO.

INVASIVE, NON-NATIVE SPECIES

Affected Environment: The well pad, road upgrade and proposed pipeline route were inventoried for the presence of any noxious or invasive weeds on May 28, 2004. Approximately 25 acres, 600 feet around the center stake at the well pad and 100 feet on either side of the existing road, were inventoried.

Scattered plants of houndstongue were observed within the inventoried area in the sagebrush community and along the stream channel of East Hunter Creek. Efforts to control houndstongue in this area have occurred for several years and have prevented the weed from dominating the basin big sagebrush bottom of East Hunter Creek.

Environmental Consequences of the Proposed Action: The seed bank of houndstongue available in this area will likely result in an invasion of the weed onto any disturbances associated with the proposed action. In addition to houndstongue, invasive non-native species such as cheat grass or other species of noxious weeds could also invade these areas.

Establishment of noxious or invasive weeds would create problems through seed production in proportion to the number of plants and the duration of their production. Increased seed production of noxious or invasive plants could aggressively compete with or exclude desired vegetation during reclamation. The noxious or invasive species seed production could also encourage the spread of these unwanted plants into the adjacent plant communities.

Environmental Consequences of the No Action Alternative: None

Mitigation: The applicant will be responsible for eliminating any noxious or invasive plants before any seed production has occurred. Eradication should make use of materials and methods approved in advance by the Authorized Officer.

The operator will clean all earth moving equipment and transports and any off-road equipment in order to remove seed and soil prior to commencing operations on public lands within the project area. It is recommended that equipment used at this location be re-cleaned prior to use at a new location due to the presence of the noxious weeds at this location.

Other mitigation is included in the Vegetation section.

MIGRATORY BIRDS

Affected Environment: Large arrays of migratory birds nest during the months of May, June and July within the sagebrush, pinyon-juniper and mountain shrub communities. The limited number of Douglas-fir trees located in the project area is not adequate to support populations of birds associated with this habitat type but does provide structure for raptor nesting. Bird populations associated with the communities found in the area and having a higher conservation interest (i.e., Rocky Mountain Bird Observatory, Partners in Flight program) are listed in the following table.

Birds of High Conservation Priority by Habitat Association

Sagebrush	Pinyon-juniper	Mountain shrub
Brewer's sparrow Green-tailed towhee	Pinyon jay, Black-throated gray warbler, Juniper titmouse, Gray flycatcher, Gray vireo, Violet-green swallow	Blue grouse Common poorwill

Environmental Consequences of the Proposed Action: Construction of the well pad and pipeline and upgrade of the road up East Hunter Creek would result in disturbance on about 26 acres of sagebrush habitat. Although the Proposed Action would represent an incremental and long-term reduction in the extent of the habitat associations described, implementation of the Proposed Action would have no measurable influence on the abundance or distribution of breeding migratory birds at the scale proposed. Nesting of migratory birds may be disrupted and nests could be lost should construction activities occur during the May through June period.

Environmental Consequences of the No Action Alternative: None

Mitigation: None

THREATENED, ENDANGERED, AND SENSITIVE ANIMAL SPECIES (includes a finding on Standard 4)

Affected Environment: The area of the Proposed Action includes no federally-listed animal species and no habitat for such species. Special status species of concern in the area of the Eureka/Double Willow Exploration Project include two Colorado BLM Sensitive Species, greater sage-grouse and northern goshawk. Additionally, other accipiters - sharp-shinned hawk and Cooper's hawk - are species of concern in the project area.

No currently used or potential greater sage-grouse habitat is located near the area of the Proposed Action. Within the Piceance Creek drainage, habitats with the greatest potential for goshawk are spruce/fir and aspen stands. In the area of East Hunter Creek where the Proposed Action is located, there are no significant stands of aspen, spruce or Douglas-fir, although there are occasional small pockets of Douglas-fir or individual fir trees in side draws coming off the ridge.

In this area, rock cliffs and small groves of Douglas-fir are prime raptor nesting sites as the cliffs and trees provide nest sites much greater in height than typically found in the pinyon-juniper woodland. On the east-facing slope west of the proposed pad location, open pinyon-juniper dominates with small cliffs located in the side draws. Across the valley, mountain shrub dominates the west-facing slopes. Scattered Douglas-fir are located in several draws on the east side of the valley.

Raptor nest searches on May 24 and May 28, 2004, located two nest sites within approximately ¼ mile of the well pad location. A golden eagle stick nest is located on a small cliff in a side draw southwest of the pad (UTM 12S 0728993, 4401647). A sharp-shinned hawk nest is located in a Douglas-fir tree on the east side of East Hunter Creek (UTM 12S 0729627, 4402007). The sharp-shinned hawk nest appears active in 2004, while the golden eagle nest appears to have been active in 2003.

Environmental Consequences of the Proposed Action: Raptor nesting and rearing activities could be disrupted should construction of the well pad, road or pipeline occur during the February to August nesting season.

Environmental Consequences of the No Action Alternative: None.

Mitigation: A current raptor survey must be obtained prior to surface disturbing activities if construction is going to occur during this nesting season. It is the responsibility of EnCana to contact the BLM or a third-party contractor to have this survey completed prior to surface-disturbing activities.

If active raptor nests are observed, restrict construction and drilling activity in East Hunter Canyon during the raptor nesting season (February 1 to August 15) or until fledging occurs to minimize disturbance at two raptor nest sites. This restriction may be lifted if surveys prior to construction reveal the nest sites are not active or that the young have fledged for the year.

Finding on the Public Land Health Standard for Threatened & Endangered species: The standard with regard to the raptors of interest is being met and will continue to be met with the observance of the mitigation described.

WASTES, HAZARDOUS OR SOLID

Affected Environment: There are no known hazardous or other solid wastes on the subject lands. No hazardous materials are known to have been used, stored or disposed of at sites included in the project area.

Environmental Consequences of the Proposed Action: No listed or extremely hazardous materials in excess of threshold quantities are proposed for use in this project. While commercial preparations of fuels and lubricants proposed for use may contain some hazardous constituents, they would be stored, used and transported in a manner consistent with applicable laws, and the generation of hazardous wastes would not be anticipated. Solid wastes would be properly disposed of.

Environmental Consequences of the No Action Alternative: No hazardous or other solid wastes would be generated under the no action alternative.

Mitigation: The operator shall be required to collect and properly dispose of any solid wastes generated by this project.

WATER QUALITY, SURFACE AND GROUND (includes a finding on Standard 5)

Affected Environment: Surface Water: The currently proposed C06 497 well pad (DW-P001) and associated access road and pipeline are located along an existing road alignment that originates in Hunter Creek and accesses East Hunter Creek. Project features lie within the Hunter Creek and East Hunter Creek drainages, which are tributary to Piceance Creek. Perennial Piceance Creek is a tributary of the White River, which ultimately flows into the Colorado River. Water quality standards and guidance for drainages within the Lower Colorado River Basin are included in CDPHE-WQCC Regulation No. 37 (2004a).

Hunter Creek is listed as the mainstem of Hunter Creek from the source to the confluence with Piceance Creek; Segment 20 of the White River. Hunter Creek has use designations of aquatic life cold 1, recreation 2, and agriculture. It is noted that there is an exception to Table Value Standards for iron (aquatic – chronic) in Segment 20.

The "Status of Water Quality in Colorado – 2004" (April, 2004) was reviewed for information related to the project area drainages. Hunter Creek was noted to have fully-supporting aquatic life cold 1, not assessed recreation 2, and fully-supporting agriculture designated uses. Hunter Creek was assigned a Colorado integrated reporting category of 2 which is described as: "some uses have been assessed and all uses assessed are fully supporting the designated uses, other uses have not been assessed."

Newly promulgated Colorado Regulations Nos. 93 and 94 (May, 2004) were reviewed for information related to the project area drainages. Regulation No. 93 is the State's list of water-quality-limited segments requiring Total Maximum Daily Loads (TMDLs). The 2004 list of segments needing development of TMDLs includes one segment within the White River - segment 9b, White River tributaries North & South Forks to Piceance Creek; specifically the Flag Creek portion (for impairment from selenium with a low priority for TMDL development).

Regulation 94 is the State's list of water bodies identified for monitoring and evaluation, to assess water quality and determine if a need for TMDLs exists. The list includes five White

River segments that are potentially impaired – 9 (ph), 12, 13a, 21, and 22 (all due to sediment). Hunter Creek (segment 20) was not listed.

Ground Water: The project area is located within the Piceance Creek structural basin. Snowmelt and rain recharge the bedrock aquifers and replenish the ground water that migrates through the Uinta and Green River Formations (Tobin, 1987). Piceance Creek drainage basins upper and lower aquifers are separated by the semi-confining Mahogany Zone. Information presented in Topper et al. (2003) indicates the following approximate depths to potentiometric surfaces within hydrogeologic units: upper Piceance Basin aquifer 600 feet, lower Piceance Basin aquifer 700 feet, and Mesaverde aquifer 400 feet (based on a surface elevation of 7,400 feet). Water well data from the Colorado Division of Water Resources (Topper et al., 2003) indicated that in central Rio Blanco County water wells are not common in the Basin. Approximately half of the water wells have a total depth less than 300-feet and half are greater than 300-feet. Dissolved solids concentration in the project area within both the Upper and Lower Piceance Basin aquifers is approximately 1,000 milligrams per liter. Primary hydrogeologic units within the Piceance Basin are listed in the following table.

Summary of Hydrogeologic Units

Hydrogeologic Unit	Thickness (ft)	Approx Avg Depth (ft)	Conductivity (ft/day)	Yield (gpm)	Transmissivity (ft^2/day)
Upper Piceance Basin aquifer	0 – 1,400	700	<0.2 to >1.6	1 to 900	610 to 770
Lower Piceance Basin aquifer	0 – 1,870	2,800	<0.1 to >1.2	1 to 1,000	260 to 380
Mesaverde aquifer	Averages 3,000	7,700	NL	NL	NL
Abbreviations: ft – feet, approx – approximate, avg – average, gpm – gallons per minute, and NL – not listed.					

Table information from Topper et al. (2003).

A groundwater well (the Ebler Well) is located approximately 2 miles east-northeast of the proposed C06 497 well pad. The well produces groundwater from the Green River Uinta Formation which is conveyed down a six-mile waterline for livestock watering. The well has a total depth of 1,083 feet. It is cemented and cased off from the surface to 885 feet, and 3/8 inch gravel pack is from 885 feet to 1,083 feet. The well showed a sustained yield of 11.66 gallons per minute.

Environmental Consequences of the Proposed Action: Surface Water: The primary potential water quality impact would be from additional sediment resulting from construction of the proposed access road, drill pad, and pipeline. Depleting the vegetation cover needed to protect watersheds from precipitation and runoff could increase short-term erosion and increase sedimentation delivery to the White River watershed. Runoff-producing storm events could increase sediment loads in ephemeral channels. Depending on the soils affected, salt content in the sediment may also degrade water quality.

The magnitude of these impacts is dependent on the amount of surface disturbance and climatic conditions during the time the soils are exposed to the elements. Impacts would continue until mitigation has been implemented and proven to be successful. Such mitigation would include revegetating the unused portion of the well pad as soon as possible, placing gravel on areas that would not be revegetated, or placing check dams to control runoff.

Ground Water: Impact on groundwater resources is not anticipated. Shallow aquifers are protected from hydrofracturing and the production of oil and gas by installation and cementing of surface and intermediate casing. The objective of surface and intermediate casing is specifically to isolate shallow aquifers. Hydrofracturing used to stimulate natural gas production of the Mesaverde Formation is anticipated to extend a maximum of 500 feet horizontally from each well bore and not at all vertically. Any groundwater produced from the Mesaverde Formation would be hauled off and disposed of because of its poor water quality and would therefore be prevented from adversely impacting surface water.

Environmental Consequences of the No Action Alternative: Under the No Action Alternative, the existing dirt road would not be improved. The marginal improvement in erosion and sedimentation control brought about by the upgrade would not occur.

Mitigation: Oil and gas operations are considered to be a light industrial activity by the Colorado Department of Public Health and Environment. As an industrial discharger, the applicant is required to obtain permits authorizing the discharge of stormwater from these sites. The permit requires development of a stormwater management plan showing how BMPs would be used to control runoff and sediment transport. Submit this plan to BLM prior to surface disturbing activities.

When preparing the site, all suitable topsoil should be stripped from the surface of the location and stockpiled for reclamation once the drilling is completed.

All sediment control structures or disposal pits will be designed to contain a 100-year, 6-hour storm event. Storage volumes within these structures will have a design life of 25 years.

All activity shall cease when soils or road surfaces become saturated to a depth of three inches unless otherwise approved by the Authorized Officer.

Vegetation or artificial stabilization of cut and fill slopes shall be provided for in the design process. Establishment of vegetation where it inhibits drainage from the road surface or where it restricts safety or maintenance shall be avoided.

Eliminate undesirable berms that retard normal surface runoff.

Finding on the Public Land Health Standard for water quality: Water quality in the stream segments within the project area meets the criteria established in the standard. With successful reclamation, the proposed and potential actions in the project area would not change this status.

FLOOD PLAINS, WETLANDS, RIPARIAN ZONES, AND ALLUVIAL VALLEYS
(includes a finding on Standard 2)

Affected Environment: No flood plains, wetlands, or riparian zones would be encountered with construction of the well pad. The upgrade of the existing road and the tie-in pipeline would cross East Hunter Creek within 500 feet northeast of the well pad. The riparian

zone along East Hunter Creek within ¼ mile of the road crossing in either direction is non-functional. Stream side vegetation consists of shallow-rooted upland plants and lacks any riparian plant species to protect stream banks. Houndstongue, a noxious weed, has invaded the floodplain along the creek at this location.

Environmental Consequences of the Proposed Action: Upgrading the existing road and installing a buried pipeline beside the road would create a short-term disturbance at the existing creek crossing during construction activities. This short-term disturbance would not change any channel characteristics, upstream or down stream, and would not influence any negative or positive changes in riparian habitat conditions.

Environmental Consequences of the No Action Alternative: None.

Mitigation: Avoid deposition of sediment created from project construction into East Hunter Creek through the use of BMPs.

Finding on the Public Land Health Standard for riparian systems: The riparian zone along East Hunter Creek near the well pad is likely not achieving the required public land health standards for a riparian system. The actions proposed with development of this well pad are not expected to create any positive or negative changes that would influence achieving health standards.

CRITICAL ELEMENTS NOT PRESENT OR NOT AFFECTED:

No prime and unique farmlands, wild and scenic rivers, Areas of Critical Environmental Concern or wilderness exist within the area of the Proposed Action. The project area was inventoried for threatened, endangered or sensitive plant species on May 28, 2004, and no such species or their suitable habitats were found in the area. The Public Land Health Standards for threatened, endangered or sensitive plant species are not applicable to this action, since neither the Proposed Action nor the No Action Alternative would have any influence on these. There are also no Native American religious or environmental justice concerns associated with the proposed action.

NON-CRITICAL ELEMENTS

The following elements **must** be addressed due to the involvement of Standards for Public Land Health:

SOILS (includes a finding on Standard 1)

Affected Environment: The soil types in the project area occur from 5,100 to 7,500 feet in elevation. The average annual precipitation in the project area is 14 to 18 inches, the average annual temperature is 40 to 50 degrees F, and the average frost-free period ranges from 80 to 130 days. The proposed well pad, road improvement, and pipeline construction, would occur within

two soil units inventoried by the Natural Resources Conservation Service (NRCS). Soil units, names, and characteristics are listed in the following table (SCS, 2004).

The Glendive soil unit has listed salinity values of <4 Mmhos per centimeter for the upper 6-inches and 2 to 8 Mmhos per centimeter for the 6- to 60-inch depth. The Torriorthents complex has no listed salinity value. As discussed below, limited disturbance of the steeper slopes (Torriorthents complex) adjacent to Hunter and East Hunter Creeks may occur.

Summary of Project Area Soil Units							
Soil Map Unit	**Soil Unit Name**	**Slope (%)**	**Ecological Site**	**Effective Rooting Depth in)**	**Runoff**	**Erosion Potential**	**Bedrock Depth(in)**
36	Glendive fine sandy loam	2 to 4	Foothills Swale	60 or more	Slow	Slight	> 60
91	Torriorthents-Rock outcrop complex	15 to 90	Stony Foothills	10 to 20	Very rapid	Very high	Not listed, approx. 3 inches

Environmental Consequences of the Proposed Action: Road, well pad, and pipeline construction would remove surface cover and disturb soils, thus potentially increasing soil erosion and reducing soil health and productivity. Actions considered in this analysis and their potential to produce soil disturbance are as follows:

1. Approximately 1.9 miles of access from Hunter Creek along the existing route (including about 200 feet on new access road construction at the pad and about 0.1 mile of reroute around the pad) would require varying degrees of improvement). The width of disturbance is assumed to be 50 feet. On a long-term basis, the 30 foot width for the running surface and borrow ditches would remain unvegetated.

2. The proposed pipeline construction along the existing road from Hunter Creek has the same length as the road which it will lie immediately adjacent to, 1.8 miles, with an assumed disturbance width of 50 feet. With successful reclamation, this entire width would eventually be revegetated.

3. The proposed C06 497 well site would have a disturbance of 3.7 acres.

The table below shows the calculated disturbance by soil mapping unit for each of the proposed actions in the project area.

Summary of Soil Disturbance by Facility and Soil Unit			
Facility	**Soil Mapping Unit**		**Total Area (acres)**
	36	**91**	
Improvement of Existing Road			
Feet	8900	1100	
Acres	10.2	1.3	11.5
Pipeline			
Feet	8900	1100	
Acres	9.6	1.3	10.9

Well Pad			
Acres	3.7		3.7
Total Area			
Acres	23.5	2.6	26.1

The total area of disturbance over both soil units would be about 26 acres, 79 percent of which would be for the East Hunter Creek road improvement and the adjacent pipeline. After successful reclamation, an estimated 7.5 acres would remain in an unvegetated state for the life of the project (30-40 years) or longer. All soil disturbances occur within the following 2 soil units:

- 23.5 acres in Glendive fine sandy loam – 2 to 4 percent slopes, slow runoff, and slight erosion potential.

- 2.6 acres in Torriorthents-Rock outcrop – 15 to 90 percent slopes, very rapid runoff, and very high erosion potential.

The above listed soil characteristics indicate the need for implementation of erosion control practices, Best Management Practices, and revegetation with attention focused on disturbance within the rock outcrop complex. It should be noted that the road improvement and trunk pipeline alignment parallel the dividing line between the soil units and that due to the scale (1" = 2000') of available maps, the amount of disturbance within the rock outcrop complex may be overestimated.

A Controlled Surface Use Stipulation attached to oil and gas lease COC-65565 calls for an "engineered construction/reclamation plan" for all surface occupancy in the lease area to protect "fragile soils on slopes greater than 35 percent and saline soils." The stipulation permits an exception if an environmental analysis finds that "the proposed action would not result in any long term decrease in site productivity or increased erosion" or if it is determined that the soil properties in the project area do not meet fragile soil criteria. The soils that would be disturbed do not meet the fragile soil criteria in that they neither have a slope greater than 35 percent nor are highly saline. With successful reclamation, the proposed action would not decrease site productivity or increase erosion.

Environmental Consequences of the No Action Alternative: Under the No Action Alternative, the existing dirt road along the ridge would not be improved. The marginal improvement in erosion and sedimentation control brought about by the upgrade would not occur.

Mitigation: Segregation of topsoil material and replacement of top soil in its respective original position (last out, first in) would assist in the reestablishment of soil health and productivity. Erosion control practices and Best Management Practices must be implemented, and reseeding of the disturbed areas would be done in accordance with BLM stipulations.

Water bars or dikes shall be constructed on all of the rights-of-way, and across the full width of the disturbed area, as directed by the authorized officer.

Slopes within the disturbed area shall be stabilized by non-vegetative practices designed to hold the soil in place and minimize erosion. Vegetation cover shall be reestablished to increase infiltration and provide additional protection from erosion.

When erosion is anticipated, sediment barriers shall be constructed to slow runoff, allow deposition of sediment, and prevent it from leaving the site. In addition, straining or filtration mechanisms may also contribute to sediment removal from runoff.

Finding on the Public Land Health Standard for upland soils: Soils within the project area meet the criteria established in the standard for upland soils. With successful reclamation, the proposed action would not change this status.

VEGETATION (includes a finding on Standard 3)

Affected Environment: There are two principal plant communities on public land in the project area that would be impacted. A basin big sagebrush community in the bottom of East Hunter Creek and a grass and forb herbaceous community on the valley toe slopes of East Hunter Creek.

The ecological site for the basin big sagebrush community is a Foothills Swale. The Foothills Swale site in East Hunter Creek is a mid-seral plant community which has a composition of species that is less than 50 percent similar to that of the potential community for the site. Also, annual vegetation production is about half of the potential for the site at 900 to 1000 pounds air dry per acre. The ecological site for the herbaceous grass/forb valley slopes is a Stony Foothills site. This is a steep slope, relatively barren site with blue bunch wheatgrass and fringed sage as the dominant plants on the site. The plant community on this site is a late-seral community that has a composition of species that is less than 75 percent similar to that of the potential community for the site. Annual vegetation production is near the potential of about 100 pounds air dry per acre.

The following table shows the approximate cover of major plant species or groups of species in the two plant communities:

Species/% Cover	Foothills Swale	Stony Foothills
Basin Sagebrush	30- 35 %	--
Rubber rabbit brush	10-15 %	--
Grasses*	10-15 %	--
Native grasses	5-10 %	15-20 %
Native forbs	10-15 %	15-20 %
Noxious weeds**	<1%	--
Bare ground	20-25 %	60-70 %
*Crested Wheatgrass ** Houndstongue		

The two plant communities within the area of the Proposed Action meet the criteria established in the public land health standard for vegetation, even with the presence of scattered houndstongue in the sagebrush community.

Environmental Consequences of the Proposed Action: Construction of the well pad, upgrade of the existing road and construction of a pipeline would remove all vegetation on approximately 26 acres (about 12 acres on public land). Most of this disturbance would occur on the Foothill Swale ecological site, about 20 acres. Less than 5 acres of the Stony Foothills site would be disturbed with most of that from pipeline construction.

The well pad would disturb about 4 acres on public lands and the road upgrade with a parallel pipeline would disturb an additional 8 to 10 acres on public lands. About ½ of the disturbance would be a short term and would remain non-vegetated for a short period of time and returned to the production of desirable perennial vegetation if successfully reclaimed.

The remaining disturbance could remain non-vegetated for a considerable length of time depending upon the success and life expectancy of the well. A portion of the well pad could be reclaimed following the drilling phase, leaving only the production area of the well pad and the road travel surface non-vegetated. As much as 75 percent of the original disturbance could be returned to production of desirable vegetation within 3 to 5 years.

The longer the disturbance remains non-vegetated, the greater the chance for invasion of weedy plants onto the site. Some of those weedy species can create problems in future reclamation efforts and some may be totally non-desirable (refer to the discussion of noxious and invasive non-native species above).

Environmental Consequences of the No Action Alternative: None

Mitigation: All disturbed areas for the pipeline and road, with the exception of the road travel surface, would be reclaimed within the first growing season or prior to the first full growing season following disturbance with the following seed mix:

Native Seed Mix #5	
Species	**Pure Live Seed***
Basin Wildrye (Magnar)	2 lbs/ac
Western wheatgrass (Rosanna, Arriba)	3 lbs/ac
Bluebunch wheatgrass (Secar)	1 lbs/ac
Thickspike wheatgrass (Critana)	2 lbs/ac
Fourwing saltbush (Wytana)	1 lbs/ac
* Seeding rate for drill seeding. Double the rate for broadcast/harrow seeding	

Successful re-vegetation should be achieved within three years. The operator will be required to monitor the project site(s) for a minimum of three years after construction to detect the presence of noxious/invasive species. Any such species that occur will be eradicated using materials and methods approved in advance by the Authorized Officer.

Areas of the well pad not used during any production phase, including cut and fill slopes, would be contoured to a slope of about 5:1, and would have topsoil redistributed and re-vegetated with Native Seed Mix #5 prior to the first full growing season following completion of drilling.

Final reclamation of roads and well pads following abandonment would be achieved with the Native Seed Mix #5.

Finding on the Public Land Health Standard for plant and animal communities (partial, see also Wildlife, Aquatic and Wildlife, Terrestrial): The plant communities within the area of the proposed action have an appropriate structure and diversity of species which meet the criteria established in the standard for vegetation. With successful reclamation, the proposed action would not change this status.

WILDLIFE, AQUATIC (includes a partial finding on Standard 3)

Affected Environment: There is no aquatic wildlife within the project area.

Environmental Consequences of the Proposed Action: None.

Environmental Consequences of the No Action Alternative: None.

Mitigation: None.

Finding on the Public Land Health Standard for plant and animal communities (partial, see also Vegetation and Wildlife, Terrestrial): Because there is no aquatic wildlife within the project area, the standard is not applicable.

WILDLIFE, TERRESTRIAL (includes a finding on Standard 3)

Affected Environment: Well site #C06 497 (DW-P001) is approximately nine miles up Hunter and East Hunter Creek from the confluence with Piceance Creek. The creeks lie in long, narrow valley bottoms running north; elevation varies from 6,200 to 7,200 feet. Access to the site is provided by a privately controlled, improved road up Hunter Creek and then by a segment of road up East Hunter Creek that will require improvement. The narrow valley bottom of Hunter Creek has been highly altered since settlement by clearing of native vegetation and development of irrigated pastures.

East Hunter Creek is a narrow valley bottom generally less than 1,000 feet wide with steep mountain sides between the valley floor and ridge tops. Basin big sagebrush in the bottom of East Hunter Creek has been burned and seeded in the recent past in a somewhat patchy manner and the area is now being reinvaded by sagebrush. On the east-facing slope west of the pad location, open pinyon-juniper dominates with small cliffs located in the side draws. Across the valley, mountain shrub dominates on the west-facing slopes. Scattered Douglas-fir are located in several draws on the east side.

In this area, rock cliffs and small groves of Douglas-fir are prime raptor nesting sites as the cliffs and trees provide nest sites much greater in height than typically found in the pinyon-juniper woodland. Two such nests, recently active, are described above in the section on Threatened, Endangered, and Sensitive Animal Species.

The Proposed Action is located within an area that is normal mule deer winter range and an elk concentration area.

Environmental Consequences of the Proposed Action: The improvement of the existing road from Hunter Creek to the well site and the construction of the pipeline and well pad would result in a loss of about 26 acres of big game habitat. Only a portion of the habitat would be lost long-term as revegetation of the pipeline and part of the well pad would take place within several years. However, habitat lost through increased road width and for the part of the well pad maintained until production ceases would be a long-term loss (8 acres). Increases in disturbance to wildlife on a ¼ mile corridor would impact approximately 300 acres. Since the roads are already in place, the impact won't be disturbance of new areas, but more frequent disturbance of areas already subject to disturbance.

Environmental Consequences of the No Action Alternative: No additional disturbance of wintering big game associated with commercial oil and gas development, or net loss of habitat to normal and severe winter range would occur at this time and this place.

Mitigation: None.

Finding on the Public Land Health Standard for plant and animal communities (partial, see also Vegetation and Wildlife, Aquatic): This project would not jeopardize the viability of any animal population. It would have no significant consequence on terrestrial habitat condition, utility, or function, nor have any discernible effect on animal abundance or distribution at any landscape scale. The public land health standard will thus be met.

OTHER NON-CRITICAL ELEMENTS: For the following elements, only those checked in the last column will be addressed further in this EA.

Non-Critical Element	NA or Not Present	Applicable or Present, No Impact	Applicable & Present and Brought Forward for Analysis
Access and Transportation			X
Cadastral Survey	X		
Fire Management			X
Forest Management		X	
Geology and Minerals			X
Hydrology/Water Rights	X		
Law Enforcement		X	
Noise		X	
Paleontology			X

Non-Critical Element	NA or Not Present	Applicable or Present, No Impact	Applicable & Present and Brought Forward for Analysis
Rangeland Management			X
Realty Authorizations			X
Recreation			X
Socio-Economics			X
Visual Resources			X
Wild Horses	X		

ACCESS AND TRANSPORTATION

Affected Environment: The principal access route into the project area is the Hunter Creek Road (BLM Road 1011 where it crosses public land) which proceeds south from the Piceance Creek Road (County Road 5) for about 7.5 miles to the intersection with the East Hunter Creek road (BLM Road 1011A where it crosses public land). It crosses Hunter Creek and travels just under two miles to the proposed well pad. About 40 percent of the route up East Hunter Creek is on public land (See Figure 2). The Hunter Creek road is an improved road, in good condition, with ditches along much of its length, although it is only single lane in most places. The road from Hunter Creek to the proposed site is a two-track that will require substantial improvement.

Access to the area of the Proposed Action up Hunter Creek from the Piceance Creek Road crosses private property and is controlled by locked gates. Traffic along the road is infrequent, limited to ranchers, some oil and gas development activity and, in season, hunters with legal access. Legal access to East Hunter Creek is available from Big Jimmy Ridge, down Enoch Gulch.

The portions of the Proposed Action on public land are within an area where motorized vehicle traffic is limited to existing roads from October 1 to April 30 each year. Cross-country motorized vehicle travel is allowed from May 1 to September 30 as long as no resource damage occurs as a result.

Environmental Consequences of the Proposed Action: The upgrade of the existing two-track road from the main Hunter Creek Road would not affect motorized vehicle use patterns in the area nor would it affect access to public lands since the improvement would end at the well pad and would continue after that as a two-track. Construction and operation of two gas wells at the proposed C06 497 (DW-P001) site would cause a temporary increase in traffic up the road for a period of two or four months. After that, well service traffic to that site would be regular but of low intensity.

Environmental Consequences of the No Action Alternative: None.

Mitigation: Implement road construction and maintenance standards and procedures described in the APD's 13 Point Surface Use Plan.

FIRE MANAGEMENT

Affected Environment: The actions proposed occur within an area which has minimal constraints on the use of wildfires to achieve public land health objectives. The area near the well site is not a location that would benefit from use of natural wildfire due to discontinuity of susceptible fuels in the sagebrush community and the relatively barren valley slopes of East Hunter Creek.

Environmental Consequences of the Proposed Action: Development of oil and gas facilities in this area is not likely to affect BLM's ability to use natural occurring wildfires to achieve public land health objectives for the plant communities in the general area.

Environmental Consequences of the No Action Alternative: None

Mitigation: Implement fire avoidance and prevention measures described in the APD's 13 Point Surface Use Plan.

GEOLOGY AND MINERALS

Affected Environment: The surficial geology in the project area is the shallow dipping Tertiary Uinta Formation within the Green River Formation (Tweto, 1979). The Green River Formation is comprised of organic-rich shaley limestone, shale, marlstone, and sandstone, and is rich in fish, insect and plant fossils. The Green River Formation contains very substantial amounts of "oil shale" which is actually a kerogen-rich marlstone (Foutz, 1994). Other mineral resources in the project include gas, coal, and nahcolite. EnCana's targeted zone in all the wells is in the Mesaverde. During drilling, potential water, oil shale, coal, oil and gas zones would be encountered from the surface to the targeted zone. This area is identified in the ROD/RMP as available for underground oil shale leasing and development.

Environmental Consequences of the Proposed Action: The cementing procedure of the proposed actions isolates the formations and, if properly done, would prevent the migration of gas, water, and oil between formations. The coal zones located in the Mesaverde will also be isolated during this procedure. These zones are at a depth greater than 3,000 feet and the coal is not recoverable by conventional methods. Development of these wells would deplete the hydrocarbon resources in the targeted formation. Depending on the number of additional wells, future development of underground mining of the oil shale in and around existing wells may be limited.

Environmental Consequences of the No Action Alternative: None.

Mitigation: None.

PALEONTOLOGY

Affected Environment: The proposed well pad, road upgrade and pipeline construction all are located in an area mapped as the Uinta Formation (Tweto 1979). BLM has classified the Uinta as a Category I formation, meaning that it is a known producer of scientifically significant fossils.

Environmental Consequences of the Proposed Action: Since the action proposed in the project area would all occur within the Uinta formation, there is potential for impacting fossil resources if it is necessary to excavate into the underlying bedrock formation to construct the well pads, including the reserve/blooie pit, to construct or upgrade the access roads, to install the pipelines, or to build the compressor station.

Environmental Consequences of the No Action Alternative: None

Mitigation: A monitor shall be present at any time that it becomes necessary to excavate into the underlying bedrock formation in order to bury pipelines, level well pads or excavate reserve/blooie pits, or to construct any project features.

Should fossil resources be discovered at any time during construction, all construction activity in the vicinity of the discovery shall cease until the BLM and an approved paleontologist have time to evaluate the discovery and recover the remains. Work shall not resume in the area of the find without written approval of the authorized officer.

RANGELAND MANAGEMENT

Affected Environment: The actions proposed occur within Pat Johnson's grazing use area of the Piceance Mountain grazing allotment. He is permitted to run cattle on this allotment from May through mid-November each year. The well and pipeline occur within the lower pasture which is grazed in May through mid-June.

No rangeland improvements occur on public lands that would be impacted by actions proposed. Any fences and gates encountered occur on private land. Any mitigation for use or change of any improvements on private land would have to be negotiated with the landowner by the applicant.

Environmental Consequences of the Proposed Action: The actions proposed would result in a forage loss to livestock from public lands of about 2 animal unit months (AUM). An AUM equates to the forage needs of a mature cow with calf for one month. Most of this loss would be only short term until successful reclamation of disturbed areas had occurred. Reclamation of the pipeline and unused portions of the roads and well pads would likely offset the short-term forage loss.

Long-term loss of forage to livestock of about 1 AUM would occur for the life of the project, assuming development of productive wells. Complete reclamation of the roads, pipeline and well pads would probably provide a small long-term increase above the present forage available to cattle.

The most significant impact to livestock will be the annoyance to cattle from construction and drilling activities and associated traffic, especially if they coincide with spring grazing use of this area. Cattle could be displaced from as much as 20 acres if construction or drilling occurs during the spring grazing period.

Proposed activities could cause physical harm due to traffic accidents, open pits or trenches or consumption of contaminated water or forage. Any livestock losses from operations conducted by the applicant would require a negotiated settlement between the applicant and the livestock owner.

Environmental Consequences of the No Action Alternative: None

Mitigation: None.

REALTY AUTHORIZATIONS

Affected Environment: The principal access route into the project area is the Hunter Creek Road (BLM Road 1011 where it crosses public land) which proceeds south from the Piceance Creek Road (County Road 5) for about 7.5 miles to the intersection with the East Hunter Creek road (BLM Road 1011A where it crosses public land). The proponent already has a BLM right-of-way for the main Hunter Creek road (COC66509). The access road from Hunter Creek to the well pad will require a right-of way as will the pipeline adjacent to the road.

Environmental Consequences of the Proposed Action: Since the access road and the gas pipeline begin in the Eureka Unit and cross into the Double Willow Unit where the well pad would be located, rights-of-way would be required. The APDs for the two wells at well pad C06 497 (8603C and 8602C) have been accepted as an application for rights-of way for the access road and the pipeline to the well pad and these actions have been serialized as COC67997.

Environmental Consequences of the No Action Alternative: None.

Mitigation: A "Notice to Proceed" stipulation will be included in the right-of-way grant for the pipeline indicating that construction of the pipeline will only be permitted to begin when the wells are producing.

The Conditions of Approval for each well will be made a part of the rights-of-way grant stipulations plus any standard stipulations from the BLM rights-of-way manual that applies.

RECREATION

Affected Environment: The Proposed Action occurs within the White River Extensive Recreation Management Area (ERMA). BLM custodially manages the ERMA to provide for unstructured recreation activities such as hunting, dispersed camping, hiking, horseback riding,

wildlife viewing and off-highway vehicle use. No commercial big-game special recreation permits (SRP) are licensed on public lands in the vicinity of the Proposed Action.

The East Hunter Creek area where the well pad would be located most closely resembles a Recreation Opportunity Spectrum (ROS) class of Semi-Primitive Motorized (SPM). An SPM recreation setting is characterized by a natural appearing environment. There are few administrative controls and low interaction between users, although evidence of other users may be present. An SPM recreation experience is characterized by a high probability of isolation from the sights and sounds of humans that offers an environment with challenge and risk.

Recreation use is likely to be low since legal public access is only available by means of a 14 to 15 mile trip on roads in good to very poor condition. Use is highest during the big game hunting seasons.

Environmental Consequences of the Proposed Action: The impact on recreation would be limited since the legal access to the area is fairly arduous and use is low. The public would lose approximately 8 acres of dispersed recreation potential during the life of the project (30-40 years) because of well pad and pipeline construction and the upgrade to the access road. The public would most likely not recreate in the vicinity of these facilities and would be dispersed elsewhere. If drilling coincides with hunting seasons (September through November), it would most likely disrupt the experience sought by those recreationists.

The construction of a well pad and gas production facilities in the north end of East Hunter Creek will introduce a markedly unnatural feature into the landscape and contribute to the erosion of the SPM setting. Likewise the traffic and human activity will also contribute to the erosion of the SPM experience.

Environmental Consequences of the No Action Alternative: None of the loss of dispersed recreation potential would occur and there would be and no impact on hunting recreationists.

Mitigation: None.

SOCIOECONOMICS

Affected Environment: The Proposed Action would be take place in Rio Blanco County but construction and drilling resources would also be drawn from Garfield County and even Mesa County. Rio Blanco County had a 2002 population of 6,063, almost unchanged from the 1990 level of 6,051. The major communities in the county are Meeker (2,272 population in 2002) and Rangeley (2,108). The county underwent a substantial economic and demographic growth in the late 1970's and early 1980's as major energy companies attempted to develop oil shale as a national energy fuel source. After a decline in jobs and population from the boom levels, the number of jobs and people in the county has remained static. Currently, the government sector makes up almost a third of all jobs in the county. The traditional farming and ranching sector has been supplemented in the last few years by a growing number of jobs in the oil and gas extraction industry as drilling activity has expanded. Many of the resources for

development of oil and gas come out of Garfield County or Mesa County and locate in Rio Blanco County on only a temporary basis.

The only economic activity besides oil and gas development that currently occurs within the Hunter Creek area is livestock grazing.

Environmental Consequences of the Proposed Action: The employment required for construction of the facilities in the Proposed Action would most likely not be new employment but workers already available in the area. Some may very well reside in other western Colorado counties. Motels, restaurants, grocery stores, gas stations, vehicle and equipment repair shops may all experience additional activity. The facilities developed by the Proposed Action would expand the local property tax base and the gas produced by the proposed wells would generate increased federal royalties. Half of those royalties would be returned to the State of Colorado and to jurisdiction within Colorado, including Rio Blanco County. This net effect of these impacts would be considered beneficial but low.

Environmental Consequences of the No Action Alternative: None.

Mitigation: None.

VISUAL RESOURCES

Affected Environment: The Proposed Action would take place on public lands that have received a VRM Class III designation. The management goal for this class is to partially retain the existing character of the landscape. The change brought about by activities on lands with VRM III designation may be evident. The visual contrast may be moderate but should not dominate the natural landscape character. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape. Public access to the area of the Proposed Actions is highly constrained and a limited number of local residents and hunters in season, together with a growing number of oil and gas company employees and contractors, make up the potential viewing public.

Environmental Consequences of the Proposed Action: The upgrade of the existing two-track up East Hunter Creek with the adjacent pipeline would not alter the existing character of the landscape. The proposed well pad would bring about an alteration of the landscape character. Removal of vegetation and recontouring of the natural surface introduce linear features into the landscape, offering contrasting soil and vegetation colors and patterns that had not previously been there. The location of the well pad in the bottom of a narrow valley would limit visibility to the immediate foreground and would thus limit the visual impact to the north end of East Hunter Creek.

Above-ground natural gas production facilities such as well heads, metering sheds, condensate tanks, and compressor facilities would introduce man-made industrial facilities that would draw attention due to their size, color and shape. The use of natural paint tones would reduce the visual impact of the facilities.

Viewed from a distance, the changes in the landscape would appear to be moderate and would not dominate the natural character of the landscape, meeting the standards of the VRM III classification.

Environmental Consequences of the No Action Alternative: None

Mitigation: All permanent (onsite for six [6] months or longer) structures, facilities and equipment placed onsite shall be low profile and painted Munsell Soil Color Chart Juniper Green or equivalent within six months of installation.

Disturbed areas shall be restored as nearly as possible to their original contour.

CUMULATIVE IMPACTS SUMMARY: Cumulative impacts from oil and gas development were analyzed in the White River Resource Area PRMP/FEIS. Current development, including the actions proposed in the Cb Ridge project area, has not exceeded the foreseeable development analyzed in the PRMP/FEIS.

REFERENCES CITED

Colorado Department of Public Health and Environment (CDPHE) Water Quality Control Commission (WQCC), 2004a. Regulation No. 37 Classifications and Numeric Standards for Lower Colorado River Basin. Adopted 1983 and Effective January 20, 2004.

CDPHE-WQCC, 2004b. "Status of Water Quality in Colorado – 2004, The Update to the 2002 305(b) Report," April.

CDPHE-WQCC, 2004c. "Regulation No. 93, 2004 Section 303(d) List Water-Quality-Limited Segments Requiring TMDLs," effective May 31.

CDPHE-WQCC, 2004d. "Regulation No. 94, Colorado's Monitoring and Evaluation List," effective May 31.

Conner, Carl E. 2004. Class III Cultural Resource Inventory Report for a Proposed 8.0 mile – long Pipeline Access Route and 40-acre Block for the Compressor Option #2 Area in Rio Blanco County, Colorado for EnCana Oil and Gas (USA) Inc. Grand River Institute. Grand Junction, Colorado.

Conner, Carl E. 2004. Class III Cultural Resources Inventory of a 1.1 Mile Section of the Proposed Hunter Creek Access/Pipeline Route in Rio Blanco County, CO for EnCana Oil and Gas (USA), Inc. Grand River Institute, Grand Junction, Colorado.

Montgomery, Keith R. 2004. Class III Cultural Resource Inventory of Fourteen Proposed Well Locations in the Eureka and Double Willow Lease Areas, Garfield and Rio Blanco Counties,

Colorado for EnCana Oil and Gas (USA) Inc. Montgomery Archaeological Consultants, Inc. Moab, Utah.

Foutz , Dell R. 1994. Geology of Colorado Illustrated. Grand Junction, CO.

Topper, R., K.L. Spray, W.H. Bellis, J.L. Hamilton, and P.E. Barkmann. 2003. Groundwater Atlas of Colorado, Special Publication 53. Prepared for State of Colorado Department of Natural Resources, Division of Minerals and Geology. Colorado Geological Survey. Denver, Colorado.

Tweto, Ogden. 1979. Geologic Map of Colorado. United States Geologic Survey**,** Department of the Interior. Reston, Virginia.

United States Department of Agriculture, Soil Conservation Service (SCS), 2004. Soil Survey of Rio Blanco County Area, Colorado. Prepared in cooperation with United States Department of Interior, Bureau of Land Management and Colorado Agricultural Experiment Station. Original survey published 1982, amended 2004. Washington, D.C.

PERSONS / AGENCIES CONSULTED:

INTERDISCIPLINARY REVIEW:

Project Team		
Name	**Title**	**Area of Responsibility**
BLM Oversight		
Keith Whitaker	Natural Resource Specialist	Project Lead; Visual Resources
Glenn Klingler	Wildlife Biologist	Migratory Birds; Threatened, Endangered and Sensitive Animal Species; Wildlife; Wetlands and Riparian Zones
Tamara Meagley	Natural Resource Specialist	Areas of Critical Environmental Concern; Threatened and Endangered Plant Species
Chris Ham	Outdoor Recreation Planner	Recreation; Wilderness; Access and Transportation
Mark Hafkenschiel	Rangeland Management Specialist	Vegetation; Invasive, Non-Native Species; Rangeland Management
Michael Selle	Archeologist	Cultural and Paleontological Resources
Caroline Hollowed	Hydrologist	Air Quality; Water Quality, Surface and Ground; Hydrology and Water Rights; and Soils
Paul Daggett	Mining Engineer	Geology and Minerals
Penny Brown	Realty Specialist	Realty Authorizations
Ken Holsinger	Natural Resource Specialist	Fire Management
Bob Fowler	Forester	Forest Management

Valerie Dobrich	Natural Resource Specialist	Wild Horses
Marty O'Mara	Petroleum Engineer	Wastes, Hazardous or Solid
WestWater Engineering (Third Party Contractor)		
Dan McWilliams	Senior Engineer	Air Quality and Soils
Steve Moore	Environmental Scientist	Areas of Critical Environmental Concern; Cultural Resources; Paleontological Resources; Wastes, Hazardous or Solid; Access and Transportation; Wilderness; Realty Authorizations; Recreation; and Visual Resources
Rusty Roberts	Range Conservationist	Threatened and Endangered Plant Species; Invasive, Non-Native Species; Wetlands and Riparian Zones; Vegetation; Fire Management; Rangeland Management; and Wild Horses
Doug McVean	Wildlife Biologist	Migratory Birds; Threatened, Endangered and Sensitive Animal Species; Wildlife, Terrestrial and Aquatic
Kim Kaal	Senior Geologist	Water Quality, Surface and Ground; Hydrology and Water Rights; Geology and Minerals
Mike Klish	Environmental Scientist	Forest Management

Finding of No Significant Impact/Decision Record (FONSI/DR)

CO-110-2004-177-EA

FINDING OF NO SIGNIFICANT IMPACT (FONSI)/RATIONALE: The environmental assessment, analyzing the environmental effects of the Proposed Action, has been reviewed. The approved mitigation measures (attached to the APDs as Conditions of Approval and to the right-of-way grants as stipulations) for wells 8603C C06 497 and 8602C C06 497, for a right-of-way grant on BLM Roads 1011 and 1011A (COC66509), and for a right-of-way grant for a pipeline adjacent to BLM Roads 1011 and 1011A (COC67997) result in a finding of no significant impact on the human environment. Therefore, an environmental impact statement is not necessary to further analyze the environmental effects of the Proposed Action.

WestWater Engineering, an environmental consulting firm, with the guidance, participation, and independent evaluation of the Bureau of Land Management (BLM) prepared this document. The BLM, in accordance with 40 CFR 1506.5 (a) and (c), is in agreement with the findings of the analysis and approves and takes responsibility for the scope and content of this document.

DECISION/RATIONALE: It is my decision to approve the development of wells 8603C C06 497 and 8602C C06 497, a right-of-way grant on BLM Roads 1011 and 1011A (COC66509), and a right-of-way grant for a pipeline adjacent to BLM Roads 1011 and 1011A (COC67997). The Proposed Action is in concert with the objectives of the White River ROD/RMP in that it would allow development of federal oil and gas resources in a manner that provides reasonable protection for other resource values. Protection for other resource values will be assured by implementation of the mitigation measures described below and attached to the APDs as Conditions of Approval.

MITIGATION MEASURES

1. Implement mitigation measures described in the APD's 13 Point Surface Use Plan.

2. The operator is responsible for informing all persons who are associated with the project operations that they will be subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are uncovered during any project or construction activities, the operator is to immediately stop activities in the immediate area of the find that might further disturb such materials, and immediately contact the Authorized Officer (AO). Within five working days, the AO will inform the operator as to:

- whether the materials appear eligible for the National Register of Historic Places,

- the mitigation measures the operator will likely have to undertake before the site can be used (assuming in situ preservation is not necessary),
- a timeframe for the AO to complete an expedited review under 36 CFR 800-11 to confirm, through the State Historic Preservation Officer, that the findings of the AO are correct and that mitigation is appropriate.

If the operator wishes, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the AO will assume responsibility for whatever recordation and stabilization of the exposed materials may be required. Otherwise, the operator will be responsible for mitigation cost. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that the required mitigation has been completed, the operator will then be allowed to resume construction.

3. Pursuant to 43 CFR 10.4(g) the holder of this authorization must notify the AO, by telephone, with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, pursuant to 43 CFR 10.4 (c) and (d), the holder must stop activities in the vicinity of the discovery and protect it for 30 days or until notified to proceed by the AO.

4. Eliminate any noxious or invasive plants before any seed production has occurred. Eradication should make use of materials and methods (Pesticide Use Proposal) approved in advance by the AO. Application of herbicides must be under field supervision of an EPA-certified pesticide applicator.

5. The operator will clean all earth moving equipment and transports and any off-road equipment in order to remove seed and soil prior to commencing operations on public lands within the project area. The equipment used at this location will be re-cleaned prior to use at any other location in the Eureka, Double Willow or Figure Four Units due to the presence of the noxious weeds at this location.

6. A current raptor survey must be obtained prior to surface disturbing activities if construction is going to occur during this nesting season. It is the responsibility of EnCana to contact the BLM and/or a third-party contractor to have this survey completed prior to surface-disturbing activities.

7. If active raptor nests are observed, restrict construction and drilling activity in East Hunter Canyon during the raptor nesting season (February 1 to August 15) or until fledging occurs to minimize disturbance at two raptor nest sites. This restriction may be lifted if surveys prior to construction reveal the nest sites are not active or that the young have fledged for the year.

8. The applicant is required to collect and properly dispose of any solid wastes generated by this project.

9. Oil and gas operations are considered to be a light industrial activity by the Colorado Department of Public Health and Environment. As an industrial discharger, the applicant is required to obtain permits authorizing the discharge of stormwater from these sites. The permit

requires development of a stormwater management plan showing how BMPs would be used to control runoff and sediment transport. Submit this plan to BLM prior to surface disturbing activities.

10. When preparing the site, all suitable topsoil should be stripped from the surface of the location and stockpiled for reclamation use once the drilling is completed. (RMP 4)

11. All sediment control structures or disposal pits will be designed to contain a 100-year, 6-hour storm event. Storage volumes within these structures will have a design life of 25 years. (RMP 6)

12. All activity shall cease when soils or road surfaces become saturated to a depth of three inches unless otherwise approved by the AO. (RMP 8)

13. Provide vegetation or artificial stabilization of cut and fill slopes in the design process. Avoid establishment of vegetation where it inhibits drainage from the road surface or where it restricts safety or maintenance. (RMP 24)

14. Eliminate undesirable berms that retard normal surface runoff. (RMP 35)

15. The applicant will segregate topsoil material and replace topsoil in its respective original position (last out, first in) to assist in the reestablishment of soil health and productivity.

16. Water bars or dikes shall be constructed on all of the rights-of-way, and across the full width of the disturbed area, according to the following standard or as directed by the authorized officer. (RMP 96)

Grade	Spacing
2 %	Every 200 feet
2-4 %	Every 100 feet
4-5 %	Every 75 feet
5+ %	Every 50 feet

17. Slopes within the disturbed area shall be stabilized by non-vegetative practices designed to hold the soil in place and minimize erosion. Vegetation cover shall be reestablished to increase infiltration and provide additional protection from erosion. (RMP 97)

18. When erosion is anticipated, sediment barriers shall be constructed to slow runoff, allow deposition of sediment, and prevent it from leaving the site. In addition, straining or filtration mechanisms may also contribute to sediment removal from runoff. (RMP 98)

19. Areas of the well pad not used during any production phase would be contoured to about 5 to 1 slopes, have topsoil redistributed and reseeded with the seed mix described below prior to the first full growing season following completion of drilling

20. All disturbed areas for the pipeline and road with the exception of the road travel surface would be revegetated within the first growing season or prior to the first full growing season following disturbance with following native seed mix:

Native Seed Mix #5	
Species	**Pure Live Seed***
Basin Wildrye (Magnar)	2 lbs/ac
Western wheatgrass (Rosanna, Arriba)	3 lbs/ac
Bluebunch wheatgrass (Secar)	1 lbs/ac
Thickspike wheatgrass (Critana)	2 lbs/ac
Fourwing saltbush (Wytana)	1 lbs/ac
* Seeding rate for drill seeding. Double the rate for broadcast/harrow seeding	

21. Successful revegetation should be achieved within three years. The operator will be required to monitor the project site(s) for a minimum of three years after construction to detect the presence of noxious/invasive species. Any such species that occur will be eradicated using materials and methods approved in advance by the AO.

22. Areas of the well pad not used during any production phase, including cut and fill slopes, would be contoured to a slope of about 5:1, and would have topsoil redistributed and re-vegetated with Native Seed Mix #5 prior to the first full growing season following completion of drilling.

23. Final reclamation of roads and well pads following abandonment would be achieved with the Native Seed Mix #5.

24. A paleontology monitor shall be present at any time that it becomes necessary to excavate into the underlying bedrock formation in order to bury the pipeline, level the well pad or excavate the reserve/blooie pit.

25. Should fossil resources be discovered at any time during construction, all construction activity in the vicinity of the discovery shall cease until the BLM and an approved paleontologist have time to evaluate the discovery and recover the remains. Work shall not resume in the area of the find without written approval of the AO.

26. A “Notice to Proceed” stipulation will be included in the ROW grant for the pipelines, that will only allow construction of these pipelines to begin when these wells are producing.

27. The “Conditions of Approval” for each well will be made a part of the ROW grant stipulations plus any standard stipulations from the BLM ROW manual that apply.

28. All permanent (onsite for six [6] months or longer) structures, facilities and equipment placed onsite shall be low profile and painted Munsell Soil Color Chart Juniper Green or equivalent within six months of installation.

29. Disturbed areas shall be restored as nearly as possible to their original contour.

NAME OF PREPARER: WestWater Engineering
2516 Foresight Circle #1
Grand Junction, CO 81505
Telephone: (970) 241-7076

NAME OF ENVIRONMENTAL COORDINATOR: Caroline P. Hollowed 10/13/04

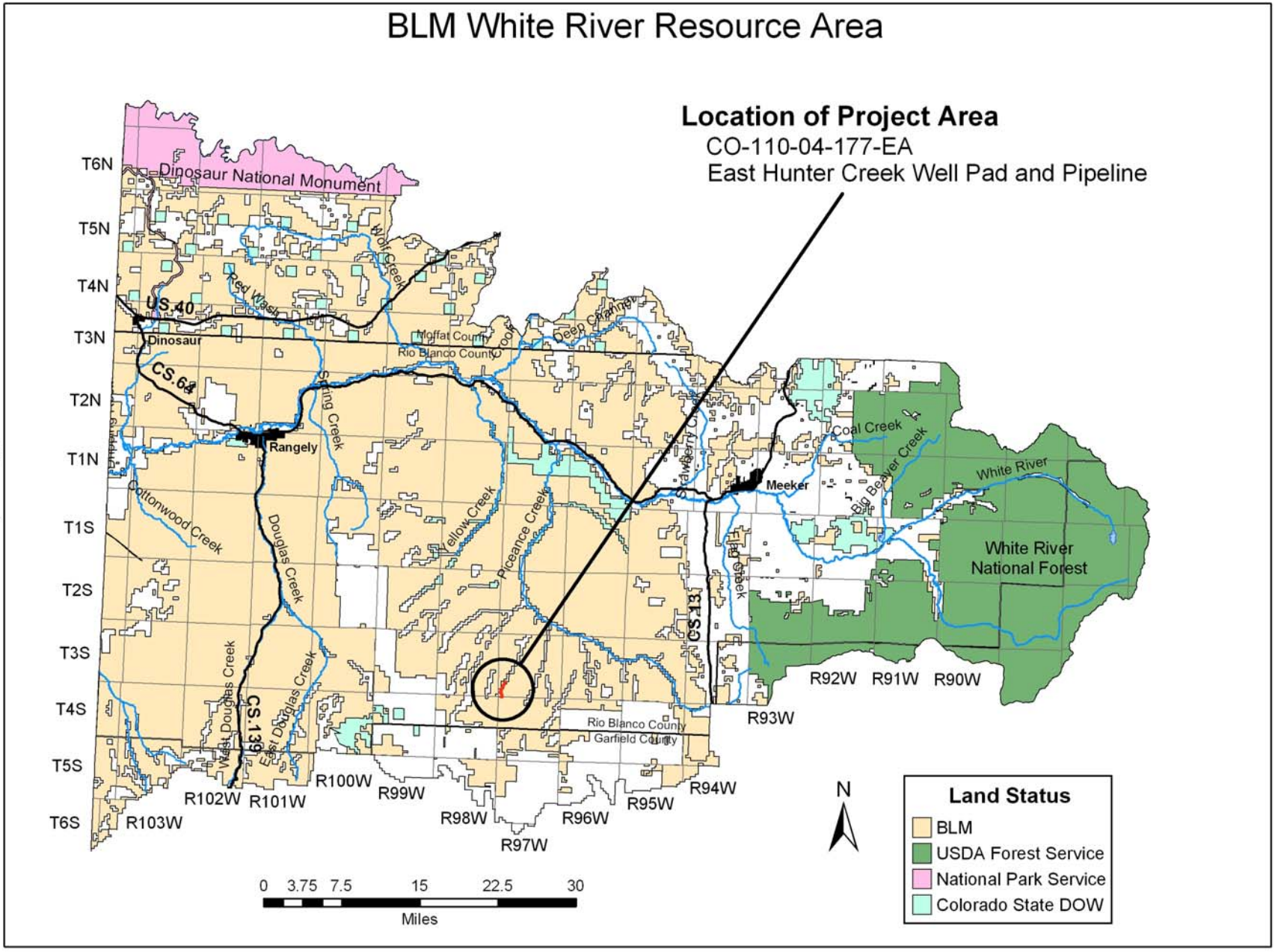
SIGNATURE OF AUTHORIZED OFFICIAL: Kent C. Walter
Field Manager

DATE SIGNED: 10/13/04

ATTACHMENTS: Figure 1-Location Map of the Proposed Action
Figure 2-Map of the East Hunter Creek Project Area

CO-110-2004-177 -EA 30

Figure 1


BLM White River Resource Area
Location of Project Area
CO-110-04-177-EA
East Hunter Creek Well Pad and Pipeline
Dinosaur National Monument
Dinosaur
Rangely
Meeker
US.40
CS.64
CS.139
CS.13
Moffat County
Rio Blanco County
Garfield County
Red Wash
Wolf Creek
Deep Canyon
Strang Creek
Cottonwood Creek
Douglas Creek
West Douglas Creek
East Douglas Creek
Yellow Creek
Piceance Creek
Strawberry Creek
Coal Creek
Big Beaver Creek
White River
White River National Forest
T6N
T5N
T4N
T3N
T2N
T1N
T1S
T2S
T3S
T4S
T5S
T6S
R103W
R102W
R101W
R100W
R99W
R98W
R97W
R96W
R95W
R94W
R93W
R92W
R91W
R90W
0 3.75 7.5 15 22.5 30
Miles
N
Land Status
BLM
USDA Forest Service
National Park Service
Colorado State DOW

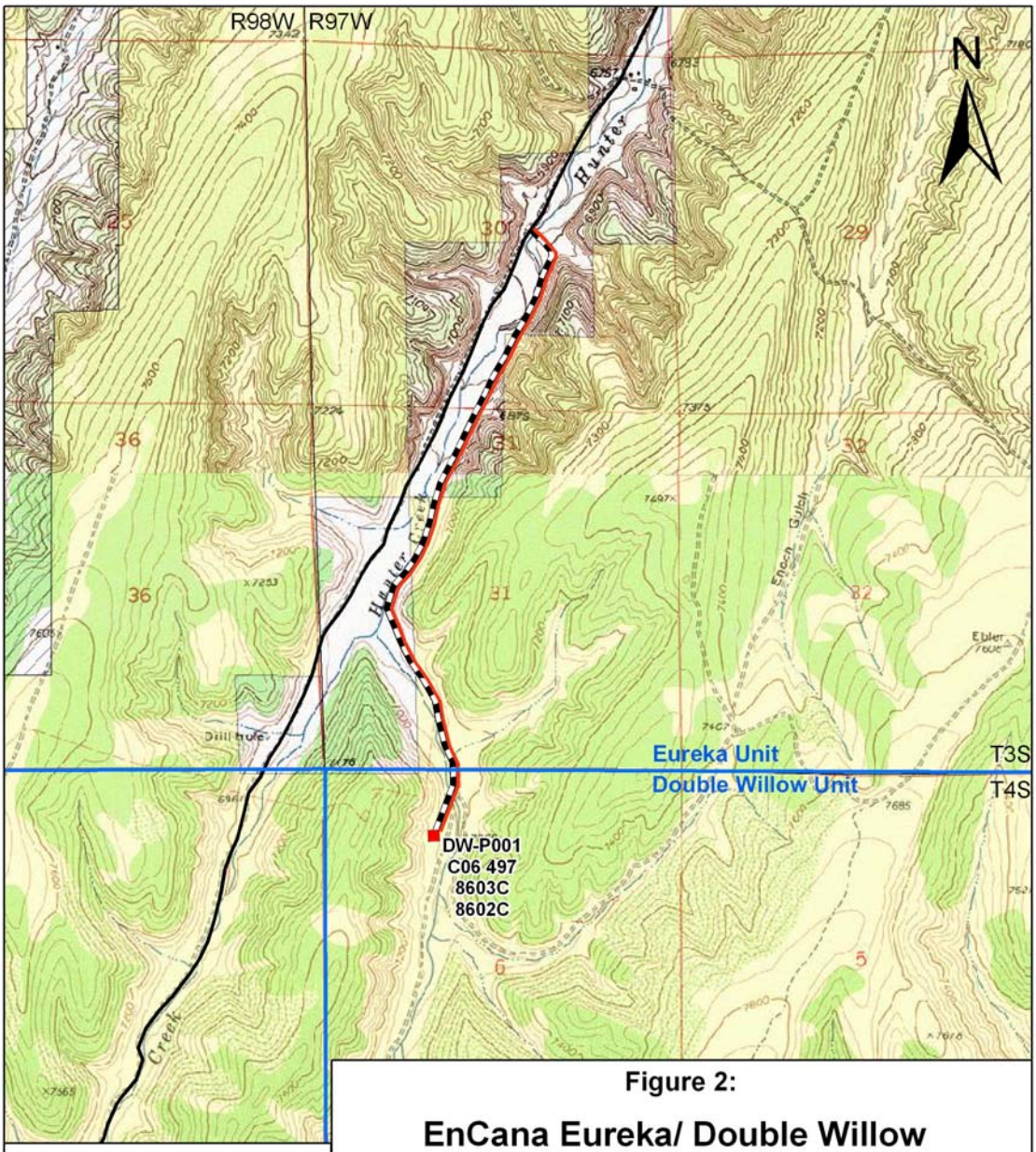


Figure 2:

EnCana Eureka/ Double Willow Exploration Project

East Hunter Creek Project Area (CO-110-04-177-EA): Proposed Well Site, Pipeline, and Road Upgrade